Claudia Tebaldi

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OVERVIEW

Climate scientist/statistician working to enhance the characterization of climate-change-related risk.

EDUCATION

PhD Statistics 1993-1997
Duke University, Institute for Statistics and Decision Sciences, Durham, NC.
Thesis advisor: M. West
Dissertation: Bayesian Analysis of Network Flow Problems

MS Statistics 1993-1995
Duke University,Institute for Statistics and Decision Sciences, Durham, NC.

Laurea cum Laude in Economics, emphasis in Statistics 1987-1991
Universita' Commerciale L. Bocconi, Milan, Italy.

APPOINTMENTS

Staff Scientist 2021-
Lawrence Berkeley National Laboratory, Climate and Ecosystem Sciences Division

- Climate and Atmosphere Processes Program Domain Lead;
- CASCADE, Technical Co-manager.

Senior Science Fellow 2013-
Climate Central

- Provision of timely scientific advice on the organization's programs.

Earth Scientist 2019-2021
Joint Global Change Research Institute

- Analysis of climate model experiments, focused on ensemble analysis; impact-relevant metrics; scenario analysis;
- Emulation of climate model output for computationally efficient integrated modeling;
- Climate information curation for large projects to ensure consistency in analysis of future change when multiple regional and spatial scales are involved.

Project Scientist 2013-2019
Climate and Global Dynamics Laboratory, National Center for Atmospheric Research

- Analysis and statistical characterization of climate change projections and their uncertainty, as derived from climate models and observations;
- Characterization of changes in extremes, and changes at regional scales;
- Bayesian models of ensemble projections; Probabilistic projections;
- Agricultural yield impact of climate change using statistical models;
- Detection of observed changes and their attribution to anthropogenic influences as a basis for understanding the current and future evolution of the Earth system, and for model evaluation.

Staff Scientist 2008-2013
Climate Central

- Research focused on current and future trends in climatic variables over the US; sea level rise and storm surges modeling and projections; extreme value analysis.

Project Scientist 2001-2008
Climate and Global Dynamics Laboratory and Institute for the Study of Society and the Environment, National Center for Atmospheric Research

Postdoctoral Fellow 1997-2000
Geophysical Statistics Project, National Center for Atmospheric Research

COURTESY APPOINTMENTS

Adjunct Professor 2009-2011
Department of Statistics, University of British Columbia, Vancouver, BC, Canada.

Summer Invited Lecturer Summer 2009
Department of Statistics. Stanford University, Palo Alto, CA.

Visiting Scientist 2008-2013
Institute for Mathematics Applied to the Geosciences and Climate and Global Dynamics Division, National Center for Atmospheric Research, Boulder, CO.

Visiting Scientist 2006-2008
Department of Global Ecology, Carnegie Institution, Stanford University, Palo Alto, CA.

RESEARCH EXPERIENCE/FOCI

- Detection and attribution of climate change, event attribution.
- Climate change projections and their uncertainty.
- Climate extremes, indices of climate extremes, statistical extreme value analysis.
- Statistical characterization of model output; model ensembles interpretation; (Bayesian) probabilistic projections; climate model emulators.
- Impact-relevant metrics of extremes.
- Impacts of climate change through empirical models (e.g., changes in agricultural yields from warming; human mortality from heatwaves; changing flood risk from sea level rise and storm surges.

INTERNATIONAL SERVICE

2021 - . Member, Scientific Steering Committee, Scenarios Forum 2022.

2020 - . Member, Editorial Board, Climatic Change.

2019 - . Member, Science Advisory Board, 4C (Climate-Carbon Interactions in the Current Century) EU project.

2019 Participant in IPCC scoping meeting for AR6 Synthesis Report.

2018 - . Member, Executive Board, Environmental Research Letters.

2018 - . Lead Author, IPCC-AR6 Working Group 1, Chapter 12, "Climate Information for Regional Impacts and Risk Assessment".

2018 Invited Participant, IPCC Expert Meeting on Regional Assessment.

2017 - . Member, Science Advisory Board, EUPHEME (EUropean Prototype demonstrator for the Harmonisation and Evaluation of Methodologies for attribution of extreme weather Events) EU project.

2017 Invited Participant, IPCC scoping meeting for AR6.

2016 - 2018 Member, International Peer Review Panel, UK Climate Projections (UKCP18).

2016 Invited Participant, IPCC scoping meeting for Special Report on 1.5^oC target.

2015 Invited Participant, IPCC Regional Climate Projections Workshop.

2015 Invited Participant, IPCC Expert Meeting on Scenarios.

2013 - . Co-chair, CMIP6 Scenario-MIP, under the auspices of the World Climate Research Program.

2013 - . Member, Scientific Steering Committee, CMIP6 Detection and Attribution MIP, under the auspices of the World Climate Research Program.

2013 - . Member, Scientific Steering Committee, Ad-hoc International Detection and Attribution Group (IDAG).

2013 - 2020 Member, UK Met Office Hadley Centre Science Review Group.

2013 - 2017 Member, World Meteorological Organization-Working Group on Coupled Models.

2013 - 2016 Member, Science Advisory Board, EUCLEIA (EUropean CLimate and weather Events: Interpretation and Attribution) project.

2009 - 2013 Lead Author, IPCC-AR5 Working Group 1, Chapter 12, "Long-term Climate Change: Projections, Commitments and Irreversibility".

2008 - 2009 Reviewer, UK Climate Projections Program 2009 (UKCP09), commissioned by the UK Department of the Environment.

2003 - 2007 Contributing Author, IPCC-AR4 Working Group 1, Chapter 10, "Global Climate Projections", and 11, "Regional Climate Projections" and Working Group 2, Chapter 2, "New Assessment Methods and the Characterisation of Future Conditions".

NATIONAL ROLES AND SERVICE

2021- . Author, National Climate Assessment 5, Chapter 2, Earth System Processes.

2021- . Member, Scientific Committee of the Institute for Mathematical and Statistical Innovation.

2017 Member, Working Group of the of the California Ocean Protection Council Science Advisory Team (OPC-SAT), convened by the California Ocean Science Trust.

2009 - 2016 Member, National Academies' Board on Atmospheric Sciences and Climate.

2015 - 2016 Member, Scientific Steering Committee, US National Academy of Science Methods for Characterizing Risk in Climate Change Assessments: A Workshop.

2010 - 2011 Member, Committee on Stabilization Targets for Atmospheric Greenhouse Gas Concentrations; National Research Council: *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia, The National Academies Press.*

2009 Symposium organizer at AAAS meeting in Chicago: "Risky business: assessing and dealing with extreme events in a changing climate".

2007 State Department Workshop on Risky Climate Change, presenter.

2004 Testimony at US Senate, Science Committee Hearing on Impacts of Climate Change.

NOAA, DOE, NSF and Canadian Science Foundation Grant Proposal Reviewer.

HONORS, AWARDS, PRIZES

President's Invited Lecture 2017
27th Annual Meeting of The International Environmetrics Society
"Future Climate Change Projections through Statistical Analysis of Multi-model Ensembles: Challenges and Opportunities."

Achievement Award 2016
International Meetings on Statistical Climatology
"In recognition of her outstanding contributions in both statistics and climate that demonstrated novel and innovative applications of statistics to climatology leading to improved understanding of historical and future climate change, and for strengthening the engagement between these two disciplines."

ERL Highlights of 2014 2014
Tebaldi and Lobell, 2014, "Getting caught with our plants down"
selected by the editors of Environmental Research Letters for inclusion in the "Highlights of 2014" collection.

AGU Editor's Citation for Excellence in Refereeing 2013
"for outstanding service to the authors and readers of Geophysical Research Letters."

ERL Highlights of 2012 2012
Tebaldi et al., 2012, "Modelling sea level rise impacts on storm surges along US coasts"
selected by the editors of Environmental Research Letters for inclusion in the "Highlights of 2012" collection.

PEER-REVIEWED JOURNAL PAPERS

[Google Scholar Profile] [Publons Public Profile]

76. Tebaldi C, Dorheim K, Wehner M, Leung R, "Extreme Metrics from Large Ensembles: Investigating the Effects of Ensemble Size on their Estimates", *Earth System Dynamics* **12**, 1427-1501 (2021).

75. Tebaldi C, Ranasinghe R, Vousdoukas M, Rasmussen DJ, et al, "Extreme sea levels at different warming levels", *Nature Climate Change* **11**, 746-751 (2021).

74. Tebaldi C, Debeire K, Eyring V, Fischer E, Fyfe J, Friedlingstein P, Knutti R, Lowe J, O'Neill B, Sanderson B, van Vuuren D, Riahi K, Meinshausen M, Nicholls Z, Tokarska KB, Hurtt G, Kriegler E, Lamarque J-F, Meehl GA, Moss R, and 36 others, "Climate model projections from the scenario model intercomparison project (ScenarioMIP) of CMIP6", *Earth System Dynamics* **12**, 253-293 (2021).

73. Meehl GA, Arblaster JM, Bates S, Richter JH, Tebaldi C, et al, "Characteristics of future warmer base states in CESM2", *Earth and Space Science* **7**, 9 (2020).

72. Tebaldi C, Armbruster A, Engler H, Link R, "Emulating Climate Extreme Indices", *Environmental Research Letters* **15**, 7 (2020).

71. Berrett C, Christensen WF, Sain SR, Sandholtz N, Coats DW, Tebaldi C, Lopes HF, "Modeling sea level processes on the US Atlantic coast", *Environmetrics* **31**, 4 (2020).

70. Zampieri M, Toreti A, Ceglar A, Naumann G, Turco M, Tebaldi C, "Climate Resilience of the top ten wheat producers in the Mediterranean and the Middle East", *Regional Environmental Change* **20**, 41 (2020).

69. Vautard R, van Oldenborgh GJ, Otto FEL, Yiou P, de Vries H, van Meijgaard E, Stepek A, Soubeyroux J-M, Philip S, Kew SF, Costella C, Singh R, Tebaldi C, "Human influence on European winter wind storms such as those of January 2018", *Earth System Dynamics* **10**, 2 (2019).

68. Otto F, Wolski P, Lehner F, Tebaldi C, et al, "Anthropogenic influence on the drivers of the Western Cape drought 2015-2017", *Environmental Research Letters* **13**, 124010 (2019).

67. Meehl GA, Tebaldi C, et al, "Future heat waves and surface ozone", *Environmental Research Letters* **13**, 064004 (2018).

66. Tebaldi C, Knutti R, "Evaluating the accuracy of climate change pattern emulation for low warming targets", *Environmental Research Letters* **13**, (5) 055006 (2018).

65. Tebaldi C, Lobell D, "Differences, or lack thereof, in wheat and maize yields under three low-warming scenarios", *Environmental Research Letters* **13**, (6) 065001 (2018).

64. Tebaldi C, Lobell D, "Estimated impacts of emission reductions on wheat and maize crops", *Climatic Change* **146**, 3-4 (2018).

63. Tebaldi C, Wehner M, "Benefits of mitigation for future heat extremes under RCP4.5 compared to RCP8.5", *Climatic Change* **146**, 3-4 (2018).

62. Aerenson T, Tebaldi C, Lamarque JF, Sanderson B, "Changes in a suite of indicators of extreme temperature and precipitation under 1.5 and 2 degrees warming", *Environmental Research Letters* **13**, (3) 035009 (2018).

61. Jones B, Tebaldi C, O'Neill BC, Oleson K, Cao J, "Avoiding population exposure to heat-related extremes: Demographic change vs. climate change", *Climatic Change* **146**, 3-4 (2018).

60. Meehl GA, Tebaldi C, et al.,, "Future heat waves and surface ozone", *Environmental Research Letters* **13**, (6) 064004 (2018).

59. Alexeeff SE, Nychka D, Sain SR, Tebaldi C, "Emulating mean patterns and variability of temperature across and within scenarios in anthropogenic climate change experiments", *Climatic Change* **146**, 3-4 (2018).

58. Fix M, Cooley D, Sain S, Tebaldi C, "A comparison of U.S. precipitation extremes under RCP8.5 and RCP4.5 with an application of pattern scaling", *Climatic Change* **146**, 3-4 (2018).

57. O'Neill BC, Done J, Gettelman A, Lawrence P, Lehner F, Lamarque JF, Lin L, Monaghan A, Oleson K, Ren X, Sanderson B, Tebaldi C, Weitzel M, Xu Y, Anderson B, Fix M, Levis S, "The Benefits of Reduced Anthropogenic Climate changE (BRACE): A synthesis", *Climatic Change* **146**, 3-4 (2018).

56. Weaver CP, Moss R, Ebi K, Gleick P, Stern P, Tebaldi C, Wilson R, Arvai J, "Reframing climate change assessments around risk: recommendations for the U.S. National Climate Assessment", *Environmental Research Letters* **12**, (8) 080201 (2017).

55. Sanderson BM, Xu Y., Tebaldi C, et al, "Community climate simulations to assess avoided impacts in 1.5C and 2C futures", *Earth System Dynamics* **8**, 3 (2017).

54. Meehl GA, Tebaldi C, Adams-Smith D, "US daily temperature records past, present, and future", *Proceedings of the National Academy of Sciences* **113**, 49 (2016).

53. O'Neill BC, Tebaldi C, van Vuuren DP, Eyring V, Friedlingstein P, Hurtt G, Knutti R, Kriegler E, Lamarque JF, Lowe J, Meehl GA, Moss R, Riahi K, Sanderson BM, "The Scenario Model Intercomparison Project (ScenarioMIP) for CMIP6", *Geoscientific Model Development* **9**, 9 (2016).

52. Gillett NP, Shiogama H, Funke B, Hegerl G, Knutti R, Matthes K, Santer BD, Stone D, Tebaldi C, "The Detection and Attribution Model Intercomparison Project (DAMIP v1.0) contribution to CMIP6", *Geoscientific Model Development* **9**, 10 (2016).

51. Sanderson BM, O'Neill BC, Tebaldi C, "What would it take to achieve the Paris temperature targets?", *Geophysical Research Letters* **43**, 13 (2016).

50. Buchanan MK, Kopp RE, Oppenheimer M,Tebaldi C, "Allowances for evolving coastal flood risk under uncertain local sea-level rise", *Climatic Change* **137**, 1-2 (2016).

49. Kopp RE, Horton BP, Kemp AC,Tebaldi C, "Past and future sea-level rise along the coast of North Carolina USA", *Climatic Change* **132**, 4 (2015).

48. Tebaldi C, O'Neill BC, Lamarque JF, "Sensitivity of regional climate to global temperature and forcing", *Environmental Research Letters* **10**, (7) 074001 (2015).

47. Jones B, O'Neill BC, McDaniel L, McGinnis S, Mearns LO,Tebaldi C, "Future population exposure to U.S. heat extremes", *Nature Climate Change* **5**, 7 (2015).

46. Johansson DJA., O'Neill BC, Tebaldi C, Haggström O, "Equilibrium climate sensitivity in light of observations over the warming hiatus", *Nature Climate Change* **5**, 5 (2015).

45. Lobell D, Tebaldi C, "Getting caught with our plants down: the risks of a global crop yield slowdown from climate trends in the next two decades", *Environmental Research Letters* **9**, (7) 074003 (2014).

44. Kopp RE, Horton RM, Little CM, Mitrovica JX, Oppenheimer M, Rasmussen DJ, Strauss BH, Tebaldi C, "Probabilistic 21st and 22nd century sea-level projections at a global network of tide-gauge sites", *Earth's Future* **2**, 8 (2014).

43. Tebaldi C, Arblaster JM, "Pattern scaling: a review of its strengths and limitations, and an update on the latest model simulations", *Climatic Change* **122**, 3 (2014).

42. Tebaldi C, Friedlingstein P, "Delayed detection of climate mitigation benefits due to climate inertia and variability", *Proceedings of the National Academy of Sciences* **110**, 43 (2013).

41. Hu A, Xu Y, Tebaldi C, et al, "Mitigation of short-lived pollutants slows sea-level rise", *Nature Climate Change* **3**, 8 (2013).

40. Meehl GA, Hu A, Tebaldi C, et al, "Relative outcomes of climate change mitigation related to global temperature versus sea level rise", *Nature Climate Change* **2**, 8 (2012).

39. Meehl GA, Washington WM, Arblaster JM, Hu A, Teng H, Tebaldi C, et al, "Climate System Response to External Forcings and Climate Change Projections in CCSM4", *Journal of Climate* **25**, 11 (2012).

38. Tebaldi C, Strauss BH, and Zervas CE, "Modelling sea level rise impacts on storm surges along US coasts", *Environmental Research Letters* **7**, (1) 014032 (2012).

37. Duffy PB, Tebaldi C, "Increasing prevalence of extreme summer temperatures in the U.S", *Climatic Change* **111**, 2 (2012).

36. Tebaldi C, Arblaster JM, Knutti R, "Mapping model agreement on future climate projections", *Geophysical Research Letters* **38**, L23701 (2011).

35. Mastrandrea MD, Tebaldi C, Snyder CP, Schneider SH, "Current and Future Impacts of Extreme Events in California", *Climatic Change* **109**, 1 (2011).

34. Hegerl G, Zwiers F Tebaldi C, "Patterns of change: Whose fingerprinting is seen in global warming", *Environmental Research Letters* **6**, (4) 044025 (2011).

33. Peng RD, Bobb JF, Tebaldi C, et al, "Toward a Quantitative Estimate of Future Heat Wave Mortality under Global Climate Change", *Environmental Health Perspectives* **119**, 5 (2011).

32. Meehl GA, Hu A, Tebaldi C, "Decadal prediction in the pacific region", *Journal of Climate* **23**, 11 (2010).

31. Knutti R, Furrer R, Tebaldi C, Meehl GA, Cermak J, "Challenges in combining projections from multiple climate models", *Journal of Climate* **23**, 10 (2010).

30. Meehl GA, Tebaldi C, Walton G, Easterling D, McDaniel L, "The relative increase of record high maximum temperatures compared to record low minimum temperatures in the U.S.", *Geophysical Research Letters* **36**, L23701 (2009).

29. Tebaldi C, Sanso B, "Joint projections of temperature and precipitation change from multiple climate models: a hierarchical Bayesian approach", *Journal of the Royal Statistical Society A* **172**, 1 (2009).

28. Smith RL, Tebaldi C, Nychka D, Mearns LO, "Bayesian modeling of uncertainty in ensembles of climate models", *Journal of the American Statistical Association* **104**, 485 (2009).

27. Manning LJ, Hall JW, Fowler HJ, Kilsby CG, Tebaldi C, "Using probabilistic climate change information from a multimodel ensemble for water resources assessment", *Water Resources Research* **45**, W11411 (2009).

26. Washington WM, Knutti R, Meehl GA, Teng H, Tebaldi C, Lawrence D, Buja L, Strand WG, "How much climate change can be avoided by mitigation?", *Geophysical Research Letters* **36**, L08703 (2009).

25. Alexander LV, Tapper N, Zhang X, Fowler HJ, Tebaldi C, Lynch A, "Climate Extremes: progress and future directions", *International Journal of Climatology* **29**, 3 (2009).

24. Groves DG, Yates D, Tebaldi C, "Developing and applying uncertain global climate change projections for regional water management planning", *Water Resources Research* **44**, W12413 (2008).

23. Tebaldi C, Lobell DB, "Towards probabilistic projections of climate change impacts on global crop yields", *Geophysical Research Letters* **35**, L08705 (2008).

22. Lobell DB, Burke MB, Tebaldi C, Mastrandrea MD, Falcon WP, Naylor RL, "Prioritizing climate change adaptation needs for food security in 2030", *Science* **319**, 5863 (2008).

21. Meehl GA, Tebaldi C, Teng H, Peterson TC, "Current and future U.S. weather extremes and El Nino", *Geophysical Research Letters* **34**, L20704 (2007).

20. Meehl GA, Arblaster JM, Tebaldi C, "Contributions of natural and anthropogenic forcing to changes in temperature extremes over the U.S.", *Geophysical Research Letters* **34**, L19709 (2007).

19. Fowler HJ, Blenkinsop S, Tebaldi C, "Linking climate change modelling to impacts studies: recent advances in downscaling techniques for hydrological modeling", *International Journal of Climatology* **27**, 12 (2007).

18. Tebaldi C, Knutti R, "The use of the multimodel ensemble in probabilistic climate projections", *Philosophical Transactions of the Royal Society* **365**, 1857 (2007).

17. Tebaldi C, Hayhoe K, Arblaster JM, Meehl GA , "Going to the extremes: An intercomparison of model-simulated historical and future changes in extreme events", *Climatic Change* **79**, 3 (2006).

16. Lopez A, Tebaldi C, New M, Stainforth D, Allen M, Kettleborough J, "Two approaches to quantifying uncertainty in global temperature changes", *Journal of Climate* **19**, 19 (2006).

15. Sharman R, Tebaldi C, Wolff J, Wiener G , "An Integrated Approach to mid- and upper-level turbulence forecasting", *Weather and Forecasting* **21**, 3 (2006).

14. Dobra A, Tebaldi C, West M, "Data augmentationin multi-way contingency tables with fixed marginal totals", *Journal of Statistical Planning and Inference* **136**, 2 (2006).

13. Meehl GA, Arblaster JM, Tebaldi C, "Understanding future patterns of increased precipitation intensity in climate models", *Geophysical Research Letters* **32**, L18719 (2005).

12. Tebaldi C, Smith RL, Nychka D, Mearns LO, "Quantifying uncertainty in Projections of Regional Climate Change: a Bayesian Approach to the Analysis of Multimodel Ensembles", *Journal of Climate* **18**, 10 (2005).

11. Tebaldi C, Mearns LO, Nychka D, Smith RL, "Regional probabilities of precipitation change: A Bayesian analysis of multimodel simulations", *Geophysical Research Letters* **31**, L24213 (2004).

10. Meehl GA, Tebaldi C, Nychka D, "Changes in Frost Days in Simulations of 21st Century Climate", *Climate Dynamics* **23**, 5 (2004).

9. Meehl GA, Tebaldi C, "More intense, more frequent and longer lasting heat waves in the 21st century", *Science* **305**, 5686 (2004).

8. Meehl GA, Washington WM, Ammann CM, Arblaster JM, Wigley TM, Tebaldi C, "Combinations of natural and anthropogenic forcings in 20th century climate", *Journal of Climate* **17**, 19 (2004).

7. Katz RW, Parlange M, Tebaldi C, "Stochastic Modeling of the Effects of Large-Scale Circulation on Daily Weather in the Southeastern U.S.", *Climatic Change* **60**, 1 (2003).

6. Nychka D, Tebaldi C, "Comments on 'Calculation of Average, Uncertainty Range, and Reliability of Regional Climate Changes from AOGCM Simulations via the Reliability Ensemble Averaging (REA) Method", *Journal of Climate* **16**, 5 (2003).

5. Tebaldi C, West M, Karr A, "Statistical Analyses of Freeway Traffic Flows", *Journal of Forecasting* **21**, 1 (2002).

4. Tebaldi C, Nychka D, Brown BG, Sharman R, "Flexible Discriminant Techniques for Forecasting Clear-Air Turbulence", *Environmetrics* **13**, 8 (2002).

3. Tebaldi C, West M, Karr AF, "Statistical Analyses of freeway traffic flows", *Journal of Forecasting* **21**, 1 (2002).

2. Parmigiani G, Berry D, Winer E, Tebaldi C, Prosnitz L, "Is Axillary Node Dissection Indicated for Early Stage Breast Cancer? A Decision Analysis", *Journal of Clinical Oncology* **17**, 5 (1999).

1. Tebaldi C, West M, "Bayesian Inference on Network Traffic Using Link Count Data. With discussion", *Journal of the American Statistical Association* **93**, 442 (1998).

BOOK CHAPTERS, REPORTS AND INVITED PUBLICATIONS

- Tebaldi C and O'Neill B (2020): Climate scenarios and their relevance and implications for impact studies. In: Climate Extremes and their Implications for Impact and Risk Assessment. Sillmann J, Sippel S and Russo S eds. Elsevier.

- Griggs G, Arvai J, Cayan D, DeConto R, Fox J, Fricker HA, Kopp RE, Tebaldi C, and EA Whiteman (2017): "Rising Seas in California: An Update on Sea-Level Rise Science." California Ocean Science Trust.

- Collins M, Knutti R, Arblaster JM, Dufresne JL, Fichefet T, Friedlingstein P, Gao X, Gutowski WJ, Johns T, Krinner G, Shongwe M, Tebaldi C, Weaver AJ, and M Wehner (2013): Long-term Climate Change: Projections, Commitments and Irreversibility. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, TF, et al. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

- Alexander LA and C Tebaldi (2011): Climate and Weather Extremes: Observations, Modeling and Projections, in "Future of the World's Climate", Henderson Sellers and McGuffie Eds., Elsevier, pp. 253-288.

- Tebaldi C, Knutti R (2010): Climate Models and their projections of future changes. in "Mountains: Sources of Water, Sources of Knowledge", Wiegandt E. ed. Springer.

- Tebaldi C, Smith RL, and B Sanso' (2010): Characterizing Uncertainty of Future Climate Change Projections Using Hierarchical Bayesian Models. in "Bayesian Statistics 9", JM Bernardo, MJ Bayarri, JO Berger, AP Dawid, D Heckerman, AFM Smith, and M West eds. Oxford University Press.

- Tebaldi C (2009): Climate Change Projections and their Uncertainty, chapter in "Climate change and food security: Adapting agriculture to a warmer world.", D Lobell and M Burke, eds. Springer.

- Tebaldi C and RL Smith (2008): Characterizing the Uncertainty of Climate Change Projections Using Hierarchical Models, chapter in "The Handbook of Applied Bayesian Analysis", M West and T O'Hagan eds. Oxford University Press.

- Tebaldi C, Mastrandrea MD, and RL Smith (2008): Global Warming entry in "Encyclopedia on Quantitative Risk Assessment.", W Piergosh ed., Wiley, NY.

- Tebaldi C and GA Meehl. (2008): Beyond mean climate change: what climate models tell us about future climate extremes. Assessing, modeling and monitoring the impacts of extreme climate events, HF Diaz and RJ Murnane eds., Cambridge University Press.

- Tebaldi C and D Nychka. (2004): Discussion of 'Calibrated Probabilistic Mesoscale Weather Field Forecasting' by J Gel et al. Journal of the American Statistical Association.

- Tebaldi C, Nychka D, Brown BG, and R Sharman (2000): Forecasting Clear-Air Turbulence. In "Case studies in Statistics and the Atmospheric Sciences", Springer-Verlag.

INVITED TALKS AND SEMINARS (2010 - .)

37. Extreme sea levels at different global warming levels. Cornell University, 10/21, Ithaca, NY (given remotely).

36. New scenarios, new models, new projections. An overview of results from CMIP6 ScenarioMIP. University of Bristol, 05/21, Bristol, UK (Given remotely).

35. New scenarios, new models, new future projections. An overview of temperature and precipitation outcomes over the 21st century from CMIP6 ScenarioMIP. CICERO, 03/21, Oslo, Norway (Given remotely).

34. New scenarios, new models, new future projections: an overview of temperature and precipitation outcomes over the 21st century from CMIP6 ScenarioMIP. Columbia-LDEO, 11/20, New York, NY (Given remotely).

33. Earth System Model simulations based on the new scenarios. NAS Board on Environmental Change and Society: Assessing and Communicating Climate Scenarios, 09/20, Washington, DC (Given remotely).

32. Results from CMIP6 ScenarioMIP. US CLIVAR Predictability, Predictions, and Applications Interface (PPAI) Panel , 07/20, (Given remotely).

31. New scenarios, new models: the latest climate change projections. Electric Power Research Institute (EPRI) Annual Meeting, 05/20, Washington, DC (Given remotely).

30. Supply driven, demand driven, or somehow in between? Climate information for societal decisions. Challenges and gains from a scientist's perspective. AGU Fall Meeting, Invited Panel Member, WCRP 40 Town Hall : From Data to Decisions (and back): Questions & Framing for Successful Translation, 12/19, San Francisco, CA.

29. That was fast! A perspective from the World Weather Attribution activities. AAAS Annual Meeting, 01/2019, Washington, DC.

28. Impacts on maize and wheat crops of alternative warming scenarios. AGU Fall Meeting, 12/18, Washington, DC.

27. IPCC Reports: How statisticians get involved. Joint Statistical Meeting, Invited Panel Member, Lessons Learned from Interdisciplinary Research Between Statistics and Climate Sciences, 07/18, Vancouver, Canada.

26. Benefits of mitigation and avoided impacts, especially in the context of the Paris warming targets. Australian Meteorological and Oceanographic Society-International Conference on Southern Hemisphere Meteorology and Oceanography Annual Meeting, Plenary Speaker, 01/2018, Sydney, Australia.

25. The COP21 agreement and relevant scenarios for simulating changes in climate extremes. EU-Joint Research Center, Workshop on Indicators for climate extremes and socio-economic impacts under different emission targets, 10/17, Ispra, Italy.

24. Translating climate model output into yield impacts: an empirical approach and some examples of its application. University of Washington Program on Climate Change Summer Institute, 09/17, Friday Harbor, WA.

23. Characterizing changes in storm surges and flood risk in the presence of sea level rise: statistical approaches and challenges. Centre des Recherches Mathematiques, Workshop on environmental risk modeling and extreme events, 08/17, Montreal, Canada.

22. Future climate change projections through statistical analysis of multi-model ensembles: challenges and opportunities. The International Econometrics Society Annual meeting, 07/17, Bergamo, Italy.

21. The sensitivity of regional precipitation to global temperature change and forcings. AGU Fall Meeting, 12/16, San Francisco, CA.

20. Creating Higher Resolution Climate Information for Integrated Assessment Modeling. GCAM Annual Meeting, Joint Global Change Research Institute, 10/16, College Park, MD.

19. Estimated impacts of emissions reductions on wheat and maize crops. AGU Fall Meeting, 12/15, San Francisco, CA.

18. Uncertainty characterization and quantification in the IPCC report: Sources, challenges, approaches. 60^{th} International Statistical Institute, World Statistics Congress, 07/2015, Rio de Janeiro, Brazil.

17. What do climate models tell us? University of Rhode Island Metcalf Institute Public Lecture, 06/15, Narragansett, RI.

16. Using multi-model ensembles in climate change projections: Challenges and Opportunities. AGU-GAC-MAC-GCU Joint Assembly, 05/15, Montreal, Canada.

15. Choosing the next scenarios: how close is too close, how different is too different? U. of Texas, Austin, Institute for Geophysics, 04/15, Austin, TX.

14. The physical and human dimension of risk from future extremes in a changing climate. AAAS Annual Meeting: Severe Weather in a Changing Climate: Informing Risk, 02/2015, San Jose, CA.

13. A brief overview of uncertainties in climate change projections and their consequences for impact assessment. AGU Fall Meeting, 12/14, San Francisco, CA.

12. Interpretation of multi-model ensembles and their use in uncertainty characterization. International Scientific Seminar at Chicheley Hall on Uncertainty in climate variability and projections of climate change: towards a process-based understanding, 09/14, Chicheley, UK.

11. How different is too different? How different is different enough? University of Exeter, 07/14, Exeter, UK.

10. Characterising uncertainty through climate model ensembles. Open issues with model dependence, performance, and robustness. University of Leeds, CliMathNet2014, 07/14, Leeds, UK.

9. Climate modeling approaches for providing probabilistic information on potential future climates. Energy Modeling Forum Workshop on Climate Change Impacts and Integrated Assessment, 07/14, Snowmass, CO.

8. Future projections of climate change: An update from IPCC AR5 WG1. Princeton Plasma Physics Lab, Princeton University, 05/14, Princeton, NJ.

7. How different is too different? How different is different enough? Geophysical Fluid Dynamics Laboratory, 05/14, Princeton, NJ.

6. Uncertainties in projections from global climate models: statistical idiosyncrasies and future directions in their analysis. AGU Fall Meeting, 12/13, San Francisco, CA.

5. Heat extremes in CESM: historical and future behavior. International Meeting on Statistical Climatology, 06/13, Canmore, Canada.

4. Making sense of multiple climate models‘ projections. Munich-Sydney-Tilburg Conference Models and Decisions, 04/13, Munich, Germany.

3. Detection and Attribution, an outlook. DADA (Detection and Attribution and Data Assimilation) Workshop, 10/12, Buenos Aires, Argentina.

2. Characterizing impact of local sea level rise through changes in extreme storm surges along the US coasts. AGU Fall Meeting, 12/10, San Francisco, CA.

1. Characterizing uncertainty of future climate change projections using hierarchical Bayesian models Ninth Valencia International Meeting on Bayesian Statistics, 06/10, Valencia, Spain.

SELECTED GRANTS

- DOE DE-FG02-13ER62402 (2018-2021): Cooperative Agreement To Analyze variabiLity, change and predictabilitY in the earth SysTem" (CATALYST), a DOE/UCAR Cooperative Agreement for Regional and Global Model Analysis (RGMA). Co-PI until July 2019.
- DOE DE-SC0004956 (2010-2013): Detection and Attribution, New Frontiers and Applications. PI.
- NSF AGS 1049066 (2011-2013): Multiscale Climate Information for Agricultural Planning in Southeastern South America in the coming decades. Co-PI.
- NIH-NIEHS R21ES020152 (2011-2013): Extreme Heat and Human Health: Characterizing Vulnerability in a Changing Climate. Sub-contractor.
- EPA-G2011-STARD1 (2012-2013): Integrating Information from Climate Scientists and Resource Managers: Informing Preparedness and Adaptation to Extreme Event Impacts on Air and Water Quality in California. Co-PI.

TEACHING, MENTORING, EXAMINING

- "Statistical methods for climate change studies" graduate course. Stanford University Statistics Department (invited summer lecturer, June-August 2009) and UBC-Vancouver Statistics Department (regular term, January-April 2010).
- "Spatial Statistics" graduate course. UBC-Vancouver Statistics Department (regular term, September-December 2010).
- PhD committee member for Carolyn Snyder (Advisors: Stephen Schneider and Chris Field; Stanford University's Emmett Interdisciplinary Program in Environment and Resources, 2010)
- PhD external examiner for Phil Sansom (University of Exeter, Mathematics, 2014)
- PhD committee member and mentor while in residence at NCAR for Jordan Winkler (Advisor: Ian Sue-Wing; Boston University, Geography, 2014)
- PhD external examiner for Aleksandra Borodina (Advisor: Reto Knutti; ETH Zurich, Department of Environmental Systems Science, 2017)
- Principal mentor for Travis Aerenson (2017 and 2018) and Alex Armbruster (2017), summer interns in the Climate Change Research section at NCAR.